



U.S. DEPARTMENT OF  
**ENERGY**

Office of  
Indian Energy

#### Agenda

1. Introduction

2. Overview

3. Technical Assistance

4. Training

5. Tools

# Tribal Energy Development: Technical Assistance, Training, and Tools





U.S. DEPARTMENT OF  
**ENERGY**

Office of  
Indian Energy

#### Agenda

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# Tribal Energy Development: Technical Assistance, Training, and Tools



# Agenda

- Technical Assistance
- Capacity Building
- Analysis
- Tools
- Information Resources





# Technical Assistance





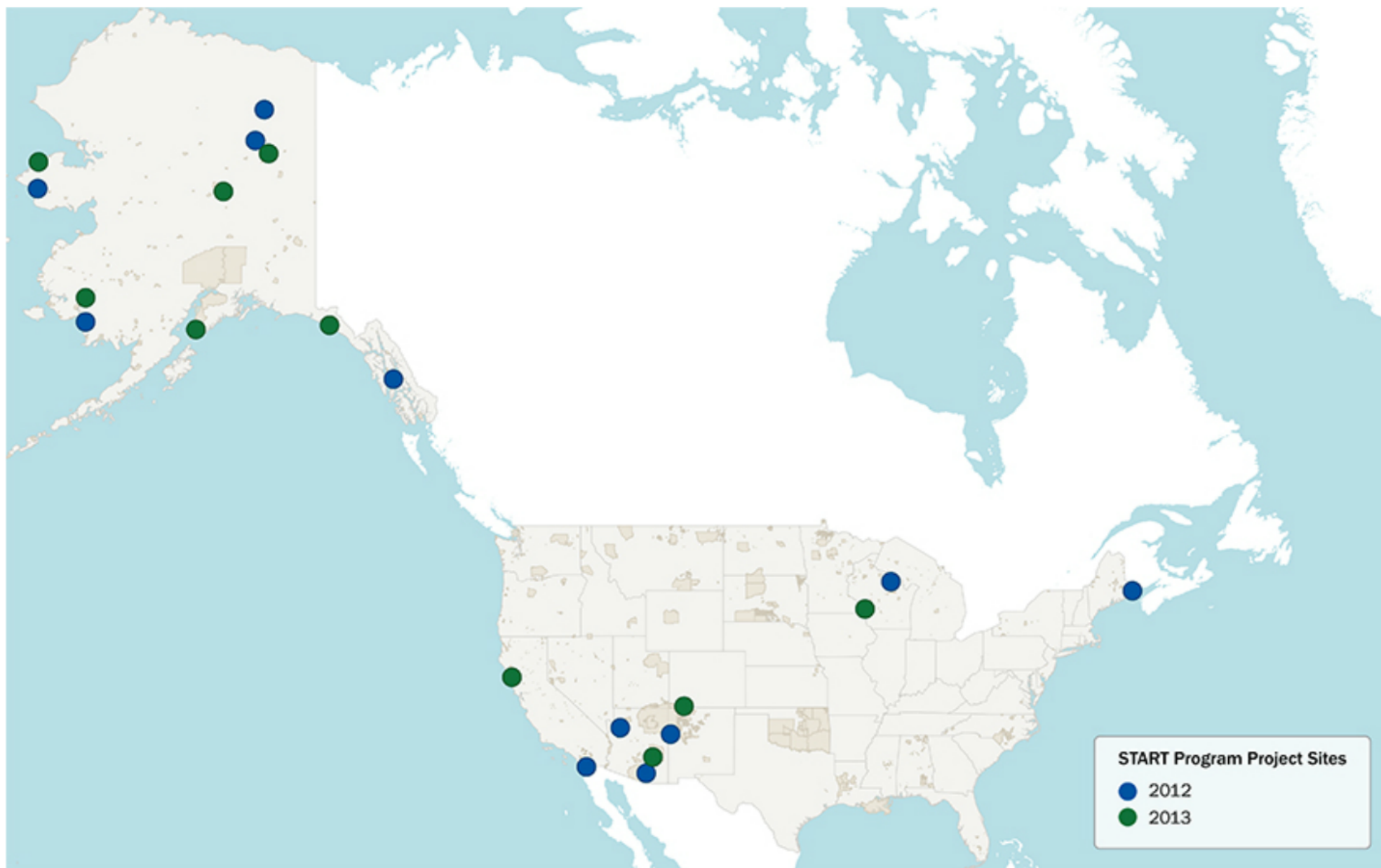
# Strategic Technical Assistance Response Team (START) Program



## 2012-2013 Projects

- 11 projects in 2012
- 10 projects in 2013

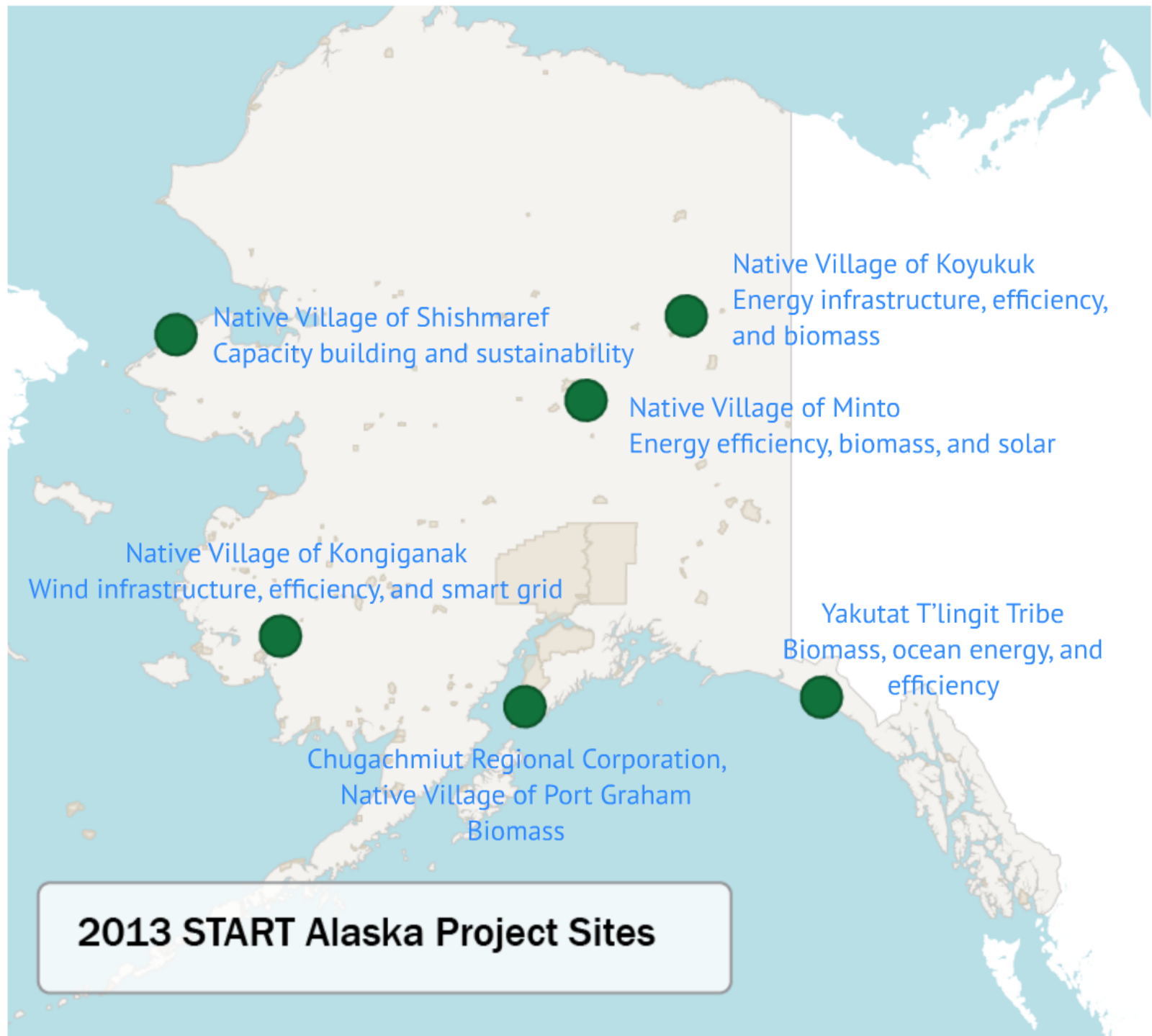


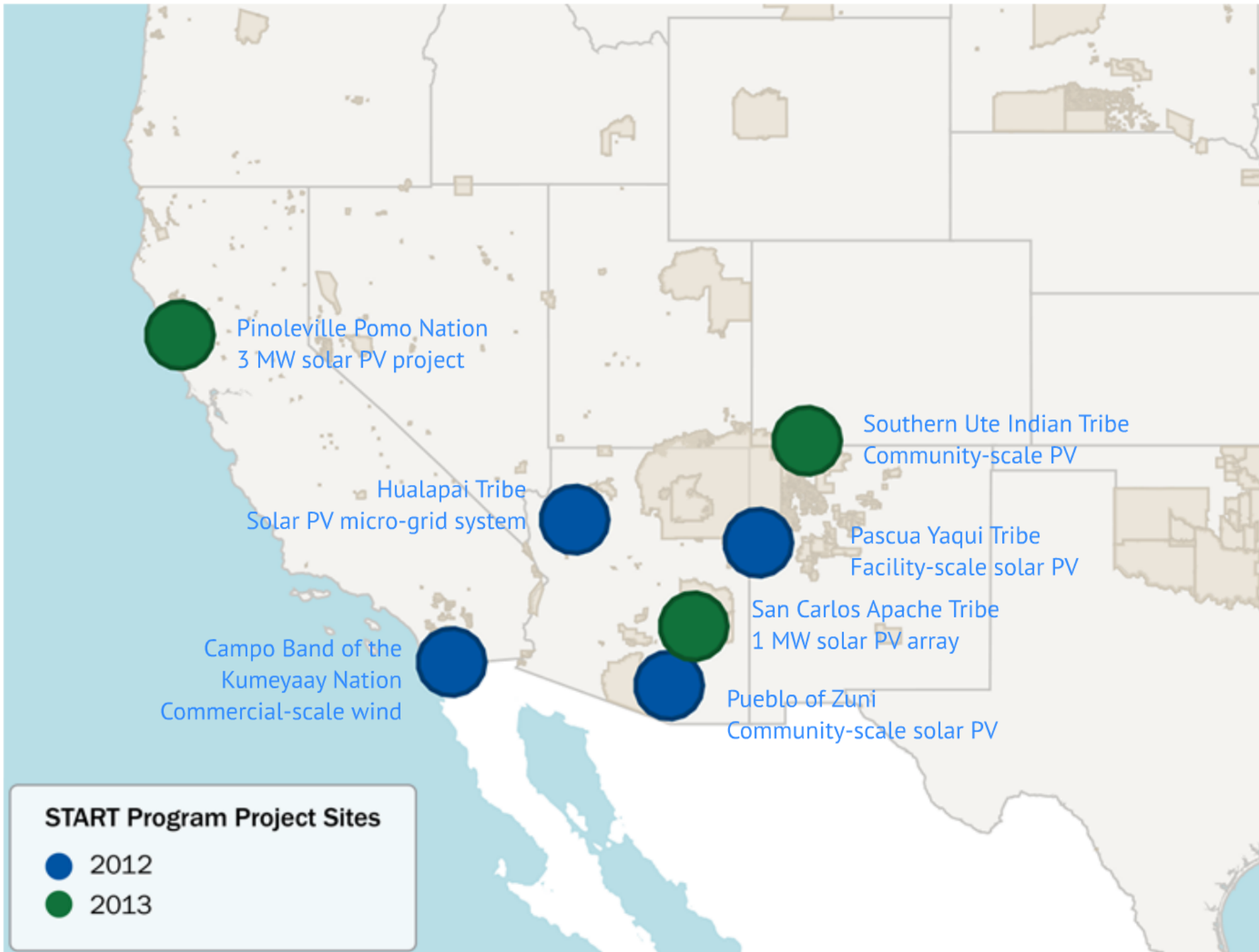




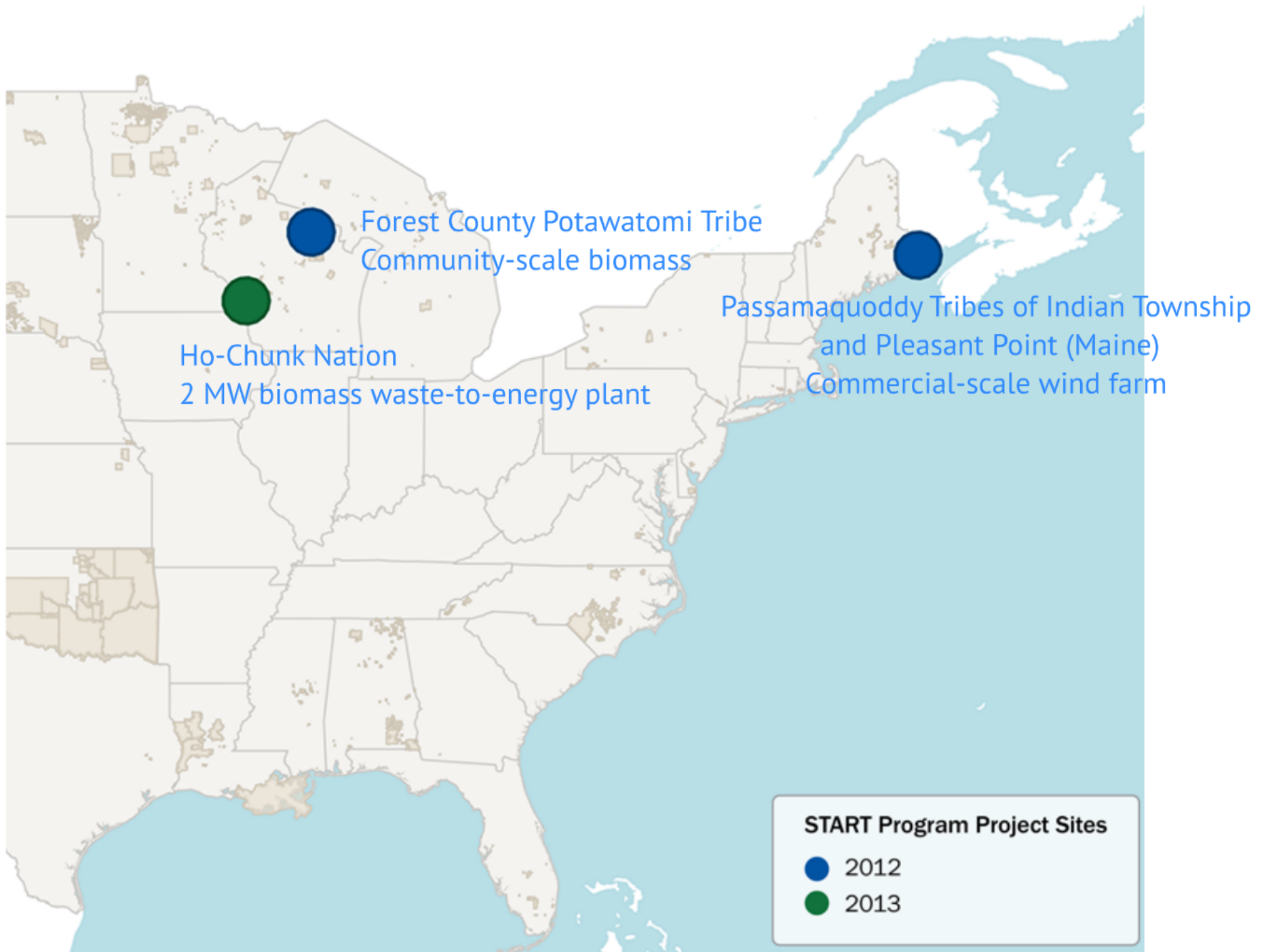












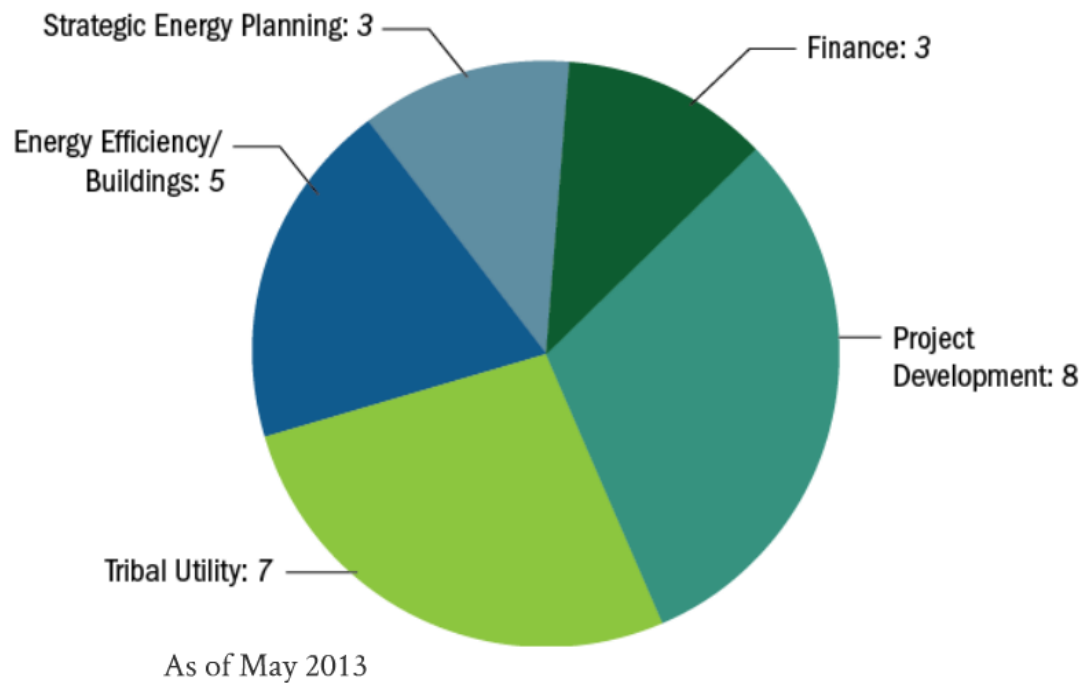
# On-Demand Technical Assistance





# Technical Assistance – By Topic

## October 2012-May 2013



- Tribes can apply for up to 40 hours of free assistance
- 50 Tribes received assistance through October 2013

# Strategic Energy Planning



“I’ve done a lot of planning, and this one seemed to fit better than any other one. I feel very positive about how well it worked to connect people.”

Elizabeth Neptune,  
Passamaquoddy Tribe of  
Indian Township



A photograph of a long, straight asphalt road stretching towards a mountain range under a blue sky with clouds. The road has a dashed white line down the center and is flanked by dry grass and green bushes. The mountains in the background are rugged and brownish-grey.

# Capacity Building

# Tribal Leader Education Programs



- 9 Foundational Courses - Renewable energy basics, strategic energy planning, electricity grid
- 7 Advanced Courses - Renewable energy project development and financing processes, structures, and project-scale walk-throughs

“Excellent introduction to basics of solar technology and resources for implementation. Concise, thorough, and well-paced.”

J. Trgovcich



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Authors can now take advantage of the ability to serve your courses up via mobile device. Learn how to create mobile courses by taking the [NTER Mobile training module](#).

### Featured Courses



**Energy Industry Fundamentals**

★★★★☆

[weatherization-nwtp.nterlearning.org](#)



**Mechanical Insulation Education & Awareness E-Learning Series**

★★★★☆

[nwtp.nterlearning.org](#)



**Process Heating**

★★★★☆

[nwtp.nterlearning.org](#)



**(WXOT) Weatherization Installer Course**

★★★★☆

[weatherization-nwtp.nterlearning.org](#)



**(WXOT) Weatherization Crew Chief Course**

★★★★☆

[weatherization-nwtp.nterlearning.org](#)

[More Featured Courses](#)

### New Courses



**Hydrogen Safety for First Responders**

★★★★☆

[nwtp.nterlearning.org](#)



**DOE-IE Renewable Energy Curriculum**

★★★★☆

[nwtp.nterlearning.org](#)



**Bellevue College Health Information Technology Training Programs**

★★★★☆



**Photovoltaic Online Training For Code Officials: FREE COURSE**

★★★★☆



**NTER Mobile**

★★★★☆

[nwtp.nterlearning.org](#)



**Energy Industry Fundamentals**

★★★★☆

[weatherization-nwtp.nterlearning.org](#)



U.S. DEPARTMENT OF  
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### DOE-IE Renewable Energy Curriculum

This is the course curriculum for the Renewable Energy Project Development and Finance program under the Indian Energy Program. Note: Some courses are still in development. Watch this site for additional courses as they become available.

#### Course Contents

- DOE-IE Renewable Energy Curriculum 5-7-13

Estimated Duration: 1 hour, 40 minutes

Last Modified: 1 week ago By NREL

Average Rating: ★★★★★ (from 3 reviews)

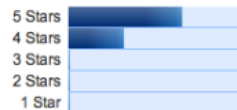
Categories:

Keywords:

[energy](#) [resources](#) [assessing](#) [wind](#) [biomass](#) [indian](#) [geothermal](#) [solar](#) [building](#) [finance](#) [leadership](#) [foundational](#) [webinar](#) [development](#) [renewable](#) [nrel](#) [project](#) [grid](#) [hydroelectric](#) [water](#) [heat](#) [essentials](#) [professional](#)

[Sign In to Enter Course](#)

#### Course Reviews



Average Rating: ★★★★★

[Sign In to Review](#)

Joanne Trgovcich  
★★★★★  
September 22, 2012

Excellent introduction to basics of solar technology and resources for implementation. Concise, thorough and well-paced.  
7 of 7 people found this review helpful



## Table of Contents

Hide

### DOE-IE Renewable Energy Curriculum 5-7-13

#### Foundational Topics

- About this Module
- Topic: Assessing Energy Resources
- Topic: Biomass
- Topic: Direct Use for Building Heat and Hot Water
- Topic: Electricity Grid Basics
- Topic: Geothermal
- Topic: Hydroelectric
- Topic: Solar

#### ● Topic: Strategic Energy Planning

- Introduction and Instructions
- Strategic Energy Planning - Webinar
- Next Steps
- Topic: Wind

#### Professional Series Topics

- About this Module
- Topic: Tribal Renewable Energy Project Development and Financing Essentials
- Topic: Tribal Renewable Energy Project Development: Advanced Financing Concepts
- Topic: Tribal Renewable Energy Project Development: Advanced Financing Process and Structures

#### Copyright

- Copyright

#### Copyright

- Copyright

## Strategic Energy Planning - Webinar



### Webinar Player

Slide Title	Duration	Status
Foundational Co...	00:39	
Course Outline	00:24	
Introduction	00:21	
Training Program...	00:27	
Presenters on Str...	00:44	
Presenters on Str...	00:38	
Course Outline	00:24	
What is Strategic...	01:54	
What Makes Ene...	06:41	
Strategic Energy ...	01:57	
Course Outline	00:05	
Steps in Strategi...	00:21	
Strategic Energy ...	00:23	
First Steps: Iden...	00:42	
First Steps: Form...	00:30	
First Steps: Deve...	00:47	
Strategic Energy ...	00:31	
Priorities & Decisi...	00:47	

**DOE OFFICE OF INDIAN ENERGY**  
**Foundational Courses**  
**Energy Basics**  
**STRATEGIC ENERGY PLANNING**

Presented by the National Renewable Energy Laboratory

U.S. DEPARTMENT OF **ENERGY** | Office of Indian Energy

Find 00:00 / 28:39 Minutes

### Webinar Slides

[DOE-IE Foundational Strategic Energy Planning.pdf \(2.35 MB\)](#)

### Audio Text Version

[DOE-IE Foundational Strategic Energy Planning txtversion.pdf \(158.62 KB\)](#)

# Tribal Renewable Energy Project Development and Finance In-Person Workshops



- Commercial-Scale Development  
July 9-11, Denver, Colorado
- Community- and Facility-Scale Development  
September 16-20, Denver, Colorado

More in 2014!



# Tribal Leader and Best Practices Forums



- 6 forums held to date
- More than 300 participants
- Opportunity for networking/partnerships

# Tribal Renewable Energy Webinar Series



- FY13 Focus on commercial-scale projects and working with utilities
- FY14 Focus on community-scale
- Free, monthly webinars offered through October 2014
- Nearly 2,000 attendees to date



An aerial photograph of a river winding through a verdant landscape. The river, with its blue-green water, flows from the upper right towards the lower left. On the left bank, a dense line of tall, slender trees stands prominently. The surrounding land is a patchwork of agricultural fields, many of which are terraced and planted with rows of green crops, likely vineyards. A dirt path or road runs parallel to the river on the right side. The overall scene is one of a healthy, cultivated environment.

# Analysis



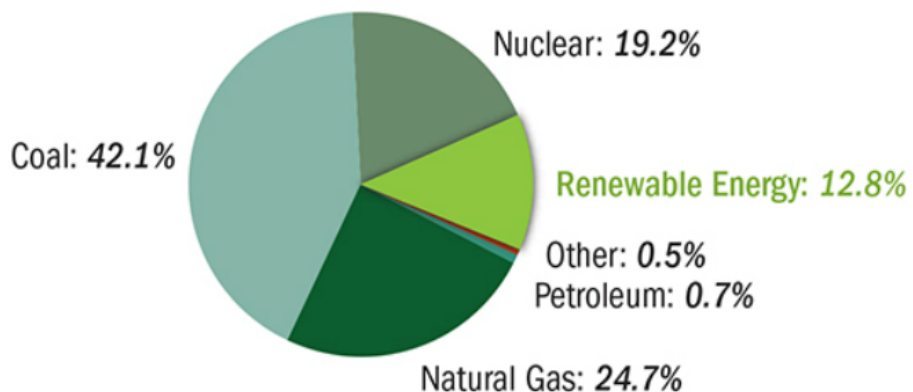
# Renewable Energy Technical Potential on Tribal Lands

## Key Findings:

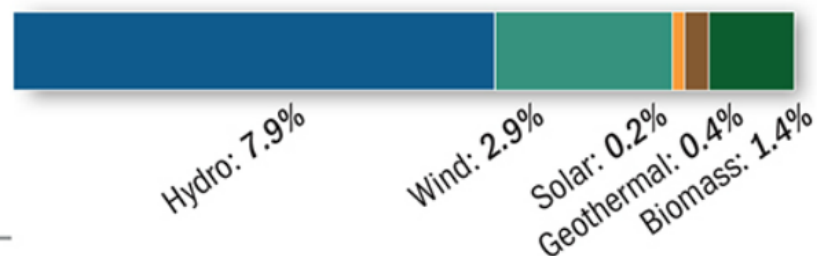
- 14 billion MWh of solar, or 5.1% of total U.S. generation potential
- 1,100 million MWh of wind, or about 3.4% of the total U.S. technical potential
- 7 million MWh of hydropower, or about 2.9% of the total U.S. technical potential



## U.S. Electric Net Generation (2011): 4,117 million MWh

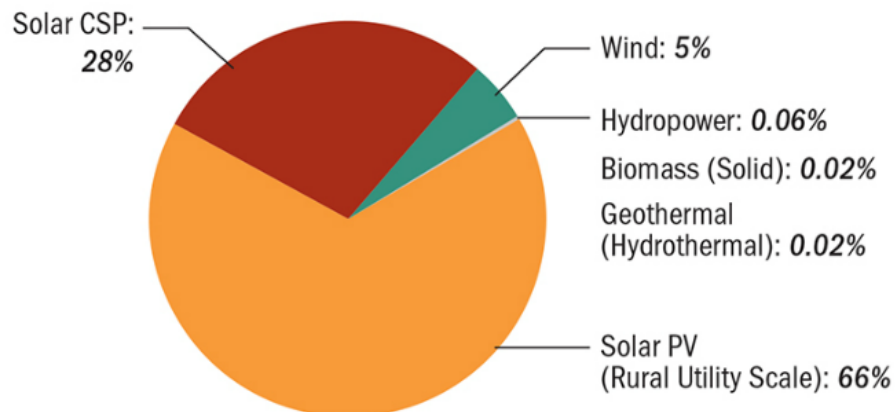


## U.S. Renewable Generation: 526 million MWh



## Megawatt-hour (MWh) of Tribal Generation<sup>3</sup> Potential<sup>2</sup>

Total<sup>4</sup> = 21,631,785,869



American Indian land comprises 2% of U.S. land, but contains an estimated 5% of all renewable energy resources

# Financing Opportunities for Renewable Energy Development in Alaska

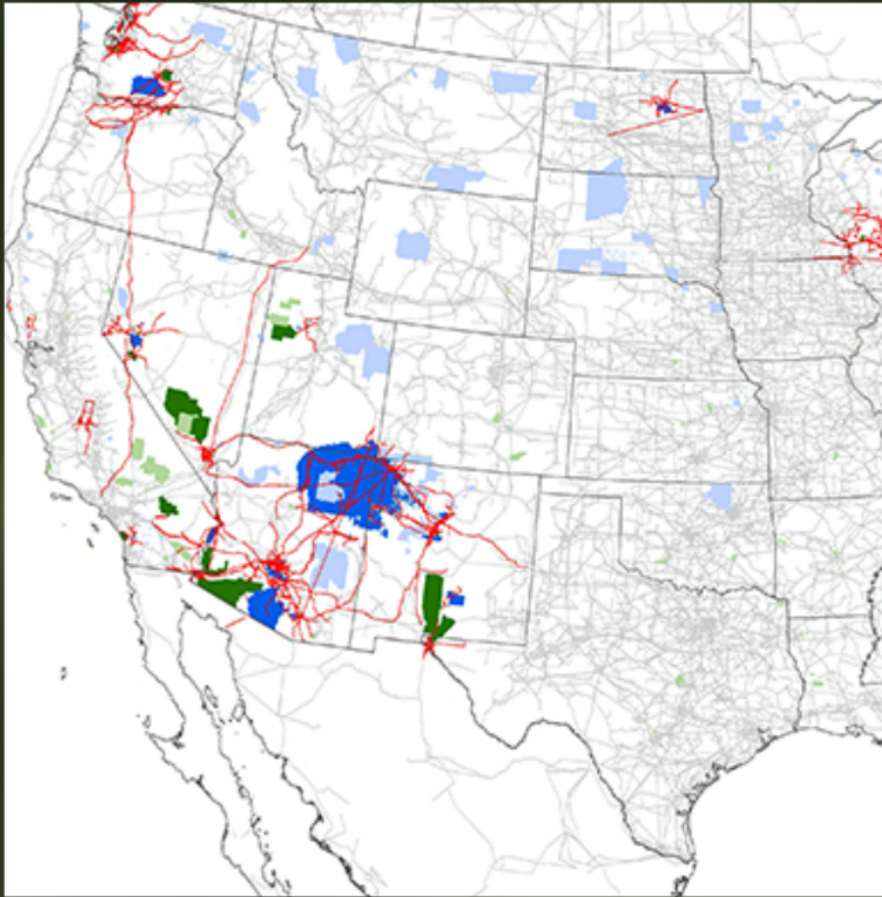


## Key Findings:

- Innovative financing structures often required to fully realize available tax benefits
- Typically includes a combination of government-sponsored and private funding
- Factors to consider when selecting the optimal financing structure include: tax status, source of capital, project terms, and ownership interest



# Military Base Off-taker Opportunities for Tribal Renewable Energy Projects



## Key Findings:

- There are 53 reservations located within 10 miles of military bases
- Top 15 reservations with tribal installation energy potential identified
- Benefits to Tribes may include additional income from land leases, energy sales, and workforce development

# Electrification Study: Tribal Energy Information Update (Forthcoming)

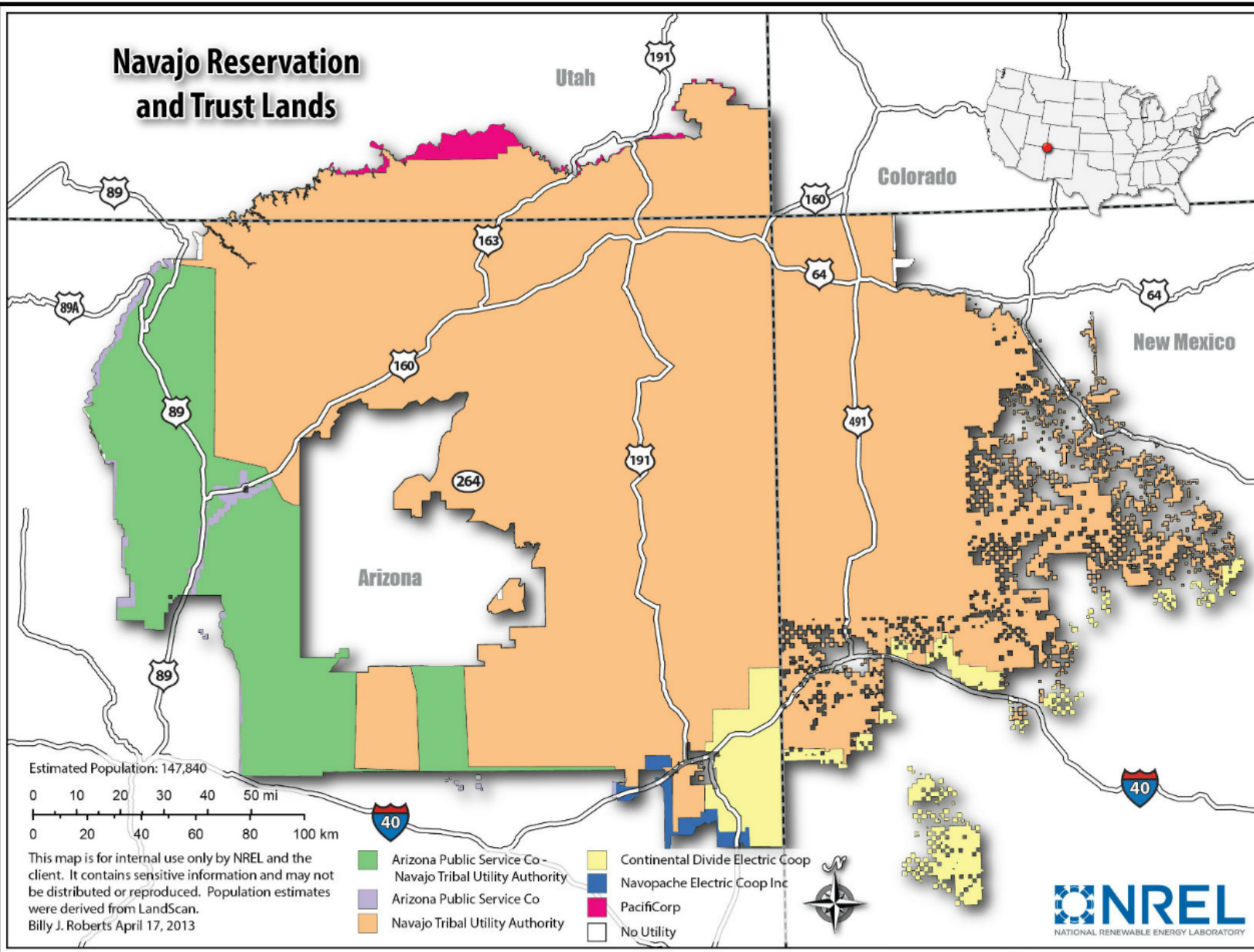


## Purpose and Goals:

- Compare top five Indian Reservations in the following categories:
  - Households without electricity in 1990 vs. 2000
  - Reservations with highest residential electricity prices in 1998 vs. 2000
- Provide better understanding of electrification rates, energy consumption, energy costs, and energy reliability issues on tribal lands
- Present necessary and updated information to advance development of tribal community-scale energy systems and utilities



# Navajo Reservation and Trust Lands



# Tools





Wind



Pan Clear Map

## Options

Location

Solar

Wind

## Solar Electricity Estimator

To estimate the solar electricity you can produce, follow the steps below.

## Step 1. Draw your system.

Use the zoom tool on the left of the map, if needed. Click the Draw button, and draw your solar array on the map. Click to add new points. Double-click to stop drawing.

Draw

If you make a mistake, click the Clear Map button at the top of the map to start over.

## Step 2. Adjust the inputs.

Based on the size and location of your system IMBY suggests these inputs. To change these values, enter your information in the fields below. [Help](#)

Size (kW):	<input type="text" value="551.85"/>
Derating:	<input type="text" value="0.77"/>
Tilt angle (°):	<input type="text" value="33"/>
Azimuth angle (°):	<input type="text" value="180"/>
Data year:	<input type="text" value="Average"/>

## Step 3. Estimate your production.

☒ Additional Options

Run



## Solar Simulation Results

### Summary

### PV Generation Profile

#### Payback

The form below shows the values used to estimate the payback for this system. [help](#)

Size (kW):

Rebates (\$):

Tax Credits (\$):

Cost/W (\$):

Initial Cost (\$):

After Incentives (\$):

Payback (years):

Re-calculate

#### System Inputs

Modify the inputs below to run another simulation

Size (kW):

Derating:

Tilt angle (°):

Azimuth angle (°):

Data year:

Re-run Simulation

#### System Outputs

This tables shows the amount of electricity (kWh) generated by this system each month, and the dollar amount that those values translate into.

Month	Output (kWh)	Value* (\$)
January	59731	5237.14
February	53464	4687.66
March	80736	7078.83
April	83187	7293.73
May	82187	7206.06
June	76139	6675.77
July	75004	6576.26
August	71051	6229.66
September	72963	6397.31
October	74561	6537.42
November	67969	5959.44
December	63833	5596.8
Annual	860825	75476.08

\*Value based on a electric rate of **\$0.09/kWh**

#### Electric Rate

Electric Rate \$/kWh:

To save these results, choose the Export Results button at the bottom right corner of this window.

### Load

Now compare your estimated solar electricity production with your electricity consumption.

#### Step 1. Select a load profile.

You may select a sample profile or upload your own custom load profile.

##### (A) Use a sample load profile.

Choose a city from the drop-down box below.

Sample Profile:

or

##### (B) Upload a load profile.

Click the Upload File button below. Then browse to locate your load profile document.

For help click [here](#)

Upload

#### Step 2. Run load profile

Run

Export Results

Close

## Solar Simulation Results

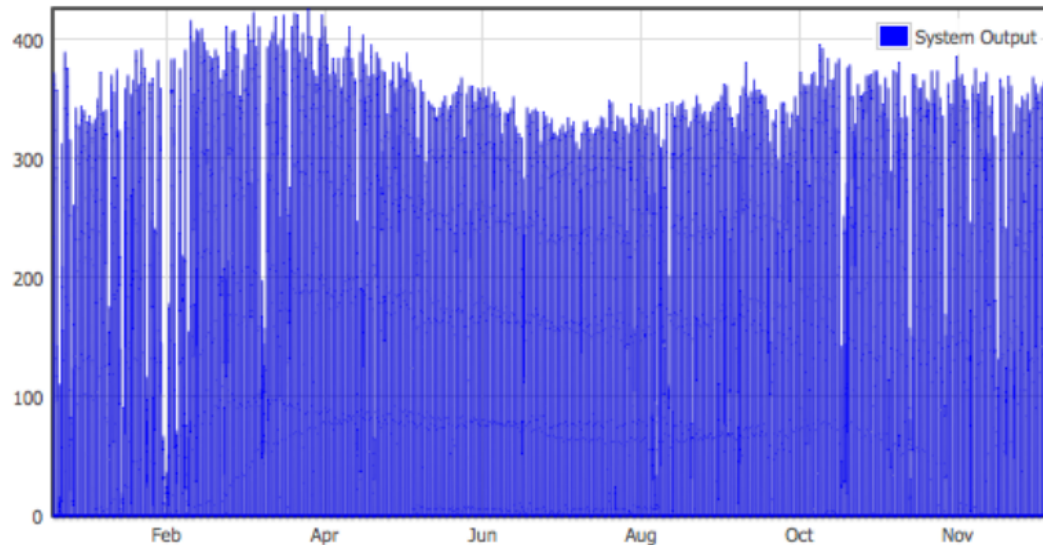
Summary

PV Generation Profile

Load

### Hourly PV Simulation Profile

kW



Time



### Help...

Your estimated solar photovoltaic (PV) system production is shown in the chart above.

To zoom in on any part of the chart, click and drag over your area of interest. To move the chart data use the controls at the bottom of the graph window.

Now compare your estimated solar electricity production with your electricity consumption.

### Step 1. Select a load profile.

You may select a sample profile or upload your own custom load profile.

#### (A) Use a sample load profile.

Choose a city from the drop-down box below.

Sample Profile:

Select...

or

#### (B) Upload a load profile.

Click the Upload File button below. Then browse to locate your load profile document.

For help click [here](#)

Upload

### Step 2. Run load profile

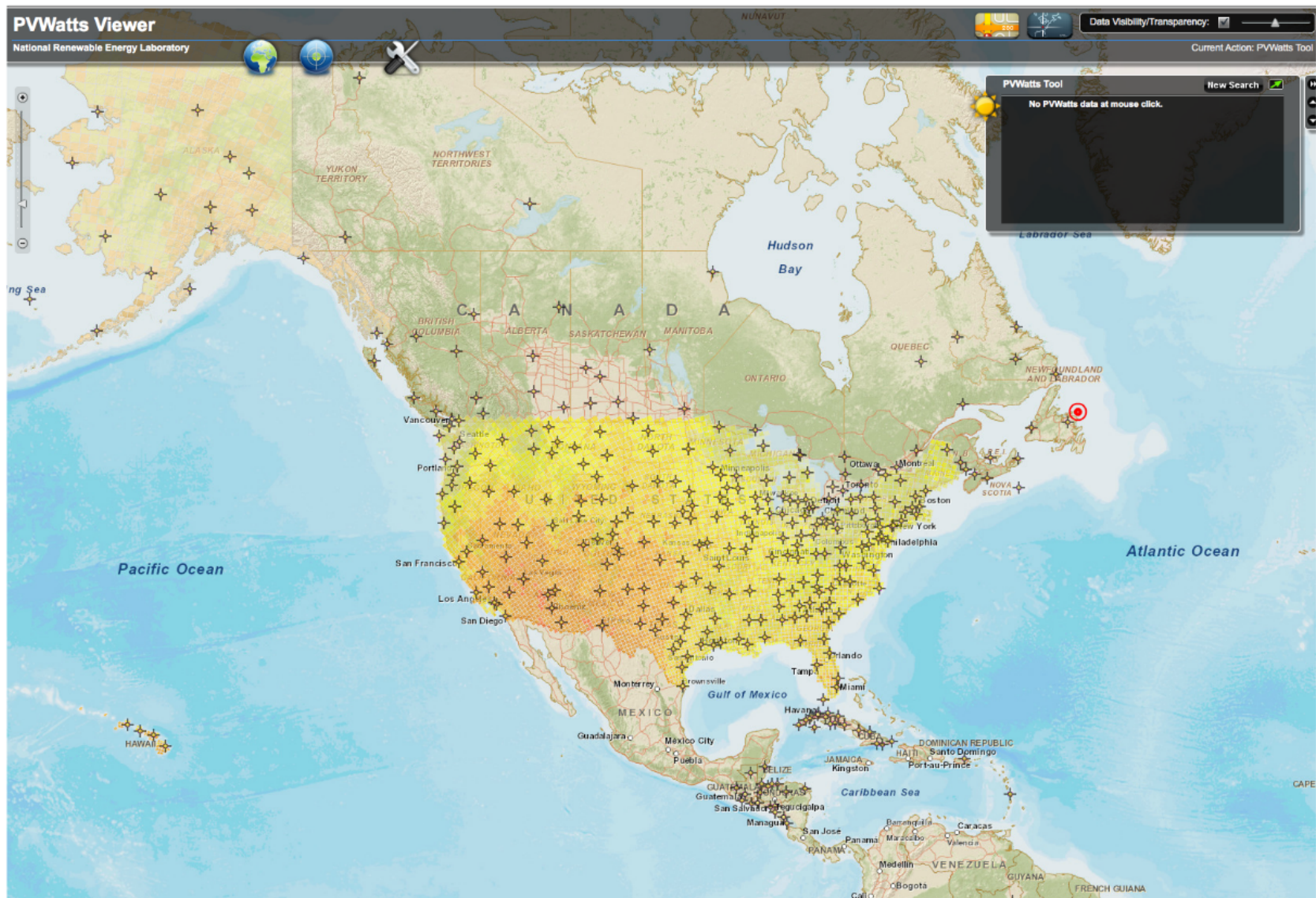
Run

Export Results

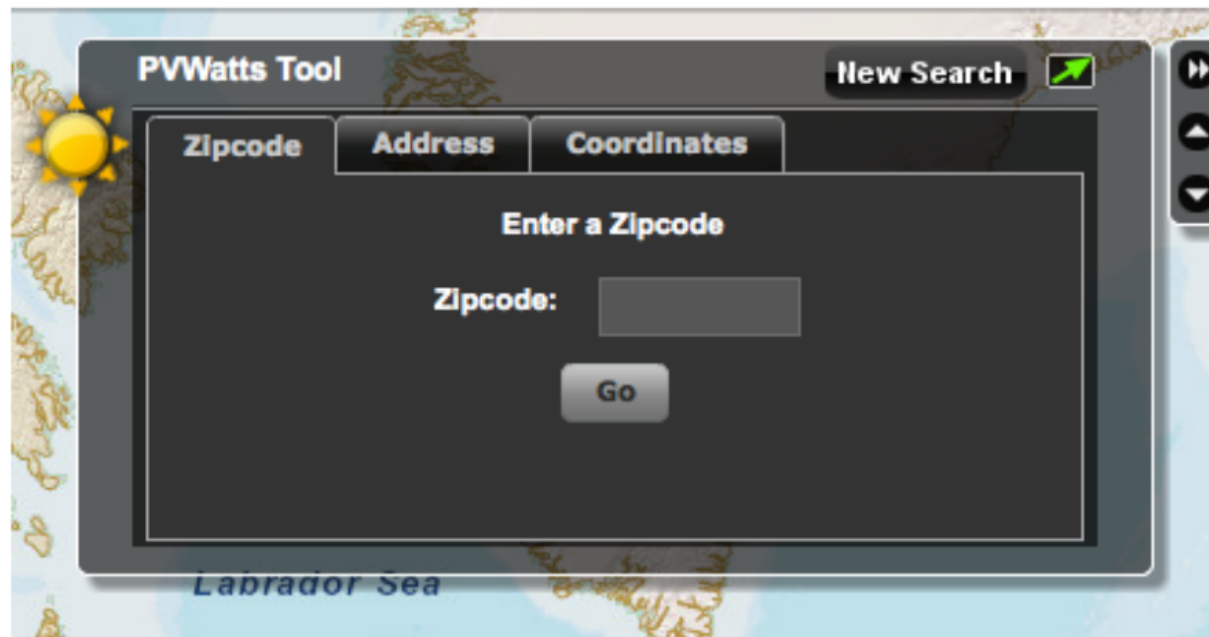
Close



# PV Watts



Enter a Zip Code:



The image shows a screenshot of the PVWatts Tool web interface. The tool is overlaid on a map of North America, with a yellow sun icon in the top left corner. The interface has a dark grey header bar with the text "PVWatts Tool" on the left and a "New Search" button with a green arrow icon on the right. Below the header, there are three tabs: "Zipcode", "Address", and "Coordinates". The "Zipcode" tab is currently selected. Inside the "Zipcode" tab, there is a dark grey box with the text "Enter a Zipcode" at the top. Below this text, there is a label "Zipcode:" followed by a text input field. At the bottom of this box is a "Go" button. To the right of the main interface, there are three navigation buttons: a double right arrow, an up arrow, and a down arrow. The background map shows the "Labrador Sea" label.

**PVWatts Tool** **New Search**

**Zipcode** **Address** **Coordinates**

**Enter a Zipcode**

**Zipcode:**

**Go**

Labrador Sea





Click on **Calculate** if default values are acceptable, or after selecting your system specifications. Click on **Help** for information about system specifications. To use a DC to AC derate factor other than the default, click on **Derate Factor Help** for information.

---

**SITE LOCATION:**

WBAN NUMBER: 94018  
CITY: Boulder  
STATE: Colorado  
LATITUDE: 40.02°N  
LONGITUDE: 105.25°W  
ELEVATION: 1634 m

---

**PV SYSTEM SPECIFICATIONS:**

DC RATING (KW):

DC TO AC DERATE FACTOR:

DERATE FACTOR  
HELP

ARRAY TYPE:

**FIXED TILT OR 1-AXIS TRACKING SYSTEM:**

ARRAY TILT (DEGREES):  (Default = Latitude)

ARRAY AZIMUTH (DEGREES):  (Default = Equator-Facing)

---

**ENERGY DATA:**

CENTS PER KWH:  (Default = State Average)

---

Calculate

HELP

Reset Form

---



# AC ENERGY & COST SAVINGS



(Type comments here to appear on printout; maximum 1 row of 80 characters.)

Station Identification	
City:	Boulder
State:	Colorado
Latitude:	40.02° N
Longitude:	105.25° W
Elevation:	1634 m
PV System Specifications	
DC Rating:	4.0 kW
DC to AC Derate Factor:	0.770
AC Rating:	3.1 kW
Array Type:	Fixed Tilt
Array Tilt:	40.0°
Array Azimuth:	180.0°
Energy Specifications	
Cost of Electricity:	8.4 ¢/kWh

Results			
Month	Solar Radiation (kWh/m <sup>2</sup> /day)	AC Energy (kWh)	Energy Value (\$)
1	4.43	427	35.87
2	4.89	418	35.11
3	6.05	564	47.38
4	6.09	529	44.44
5	5.99	523	43.93
6	6.08	501	42.08
7	6.06	502	42.17
8	6.24	518	43.51
9	6.25	516	43.34
10	5.67	503	42.25
11	4.60	420	35.28
12	4.29	413	34.69
Year	5.56	5834	490.06

Output Hourly Performance Data

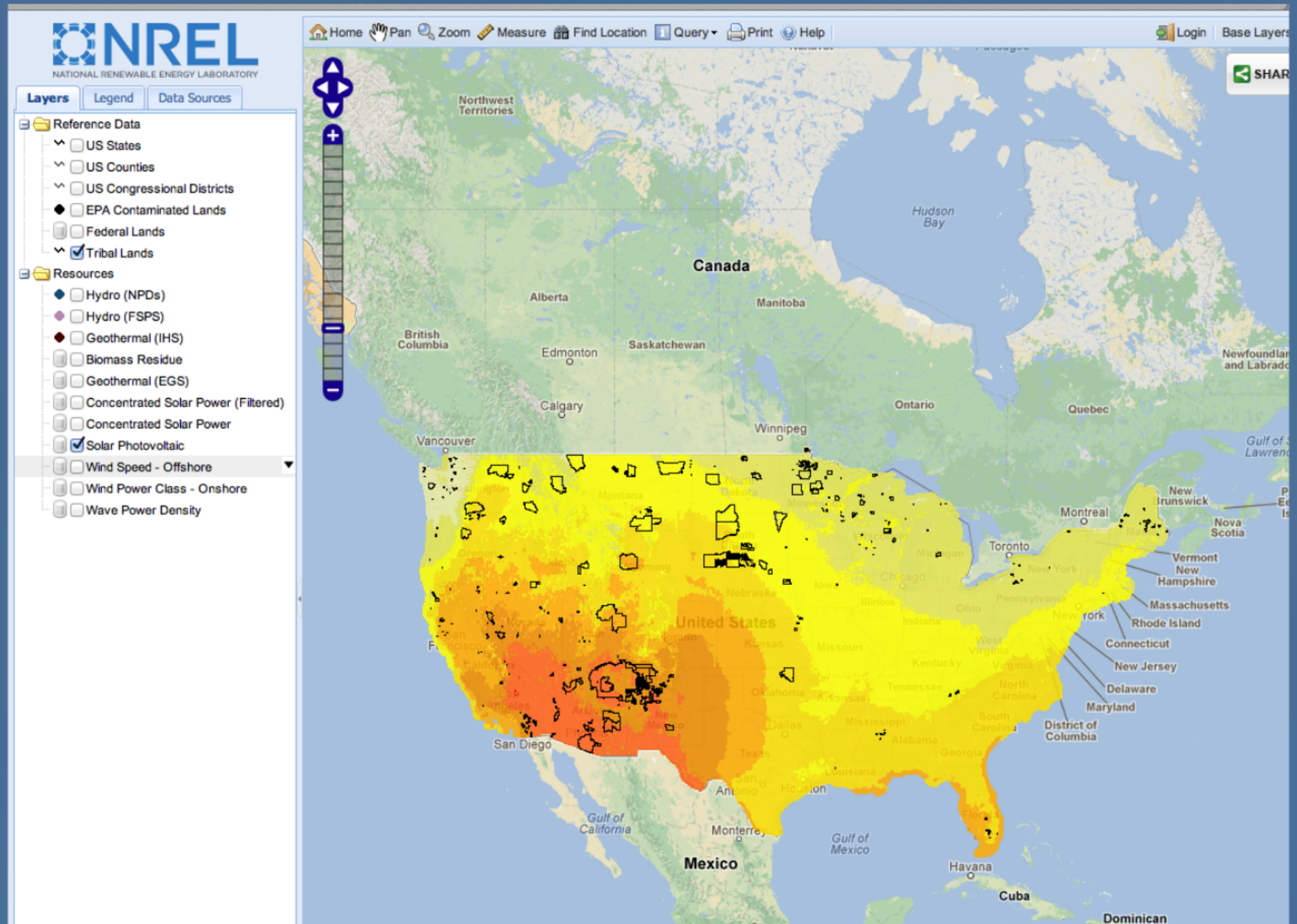
Output Results as Text

[ABOUT THE HOURLY PERFORMANCE DATA](#)

[SAVING TEXT FROM A BROWSER](#)



# RE Atlas



# Jobs and Economic Development Impact (JEDI)

Jobs & Economic Development Impacts

**JEDI PV**

Jobs & Economic Development Impacts Photovoltaics Model

Home Run the Model About JEDI PV Download JEDI PV

### Project Descriptive Data

Current Model Run: ● Unsaved - login to save

Project Location [?]

Year of Construction or Installation [?]

System Application

Solar Cell/Module Material

System Tracking

Average System Size - DC Nameplate Capacity (KW) [?]

Would you like to add custom Project Cost Data?

[View Results Summary](#)

### Local Economic Impacts - Summary Results

During construction and installation period	Jobs	Earnings \$000 (2010)	Output \$000 (2010)
Project Development and Onsite Labor Impacts	14.8	\$796.6	\$1,365.7
Construction and Installation Labor	5.8	\$454.8	
Construction and Installation Related Services	9.1	\$341.8	
Module and Supply Chain Impacts	15.5	\$588.6	\$1,699.8
Manufacturing Impacts	0.0	\$0.0	\$0.0
Other Sector Impacts	15.5	\$588.6	\$1,699.8
Induced Impacts	7.9	\$255.4	\$849.9
<b>Total Impacts</b>	<b>38.3</b>	<b>\$1,640.6</b>	<b>\$3,915.3</b>

During operating years	Annual Jobs	Annual Earnings \$000 (2010)	Annual Output \$000 (2010)
Onsite Labor Impacts			
PV Project Labor Only	0.2	\$11.1	\$11.1
Local Revenue and Supply Chain Impacts	0.0	\$2.0	\$6.7
Induced Impacts	0.0	\$1.2	\$3.9
<b>Total Impacts</b>	<b>0.2</b>	<b>\$14.3</b>	<b>\$21.6</b>

Notes: Earnings and Output values are thousands of dollars in year 2010 dollars. Construction and operation period jobs are full-time equivalent for one year (1 FTE = 2,080 hours).



## Local Economic Impacts - Summary Results

During construction and installation period	Jobs	Earnings \$000 (2010)	Output \$000 (2010)
Project Development and Onsite Labor Impacts	14.8	\$796.6	\$1,365.7
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<b>Total Impacts</b>	<b>0.2</b>	<b>\$14.3</b>	<b>\$21.6</b>

Notes: Earnings and Output values are thousands of dollars in year 2010 dollars. Construction and operating period jobs are full-time equivalent for one year (1 FTE = 2,080 hours).

3,915.3

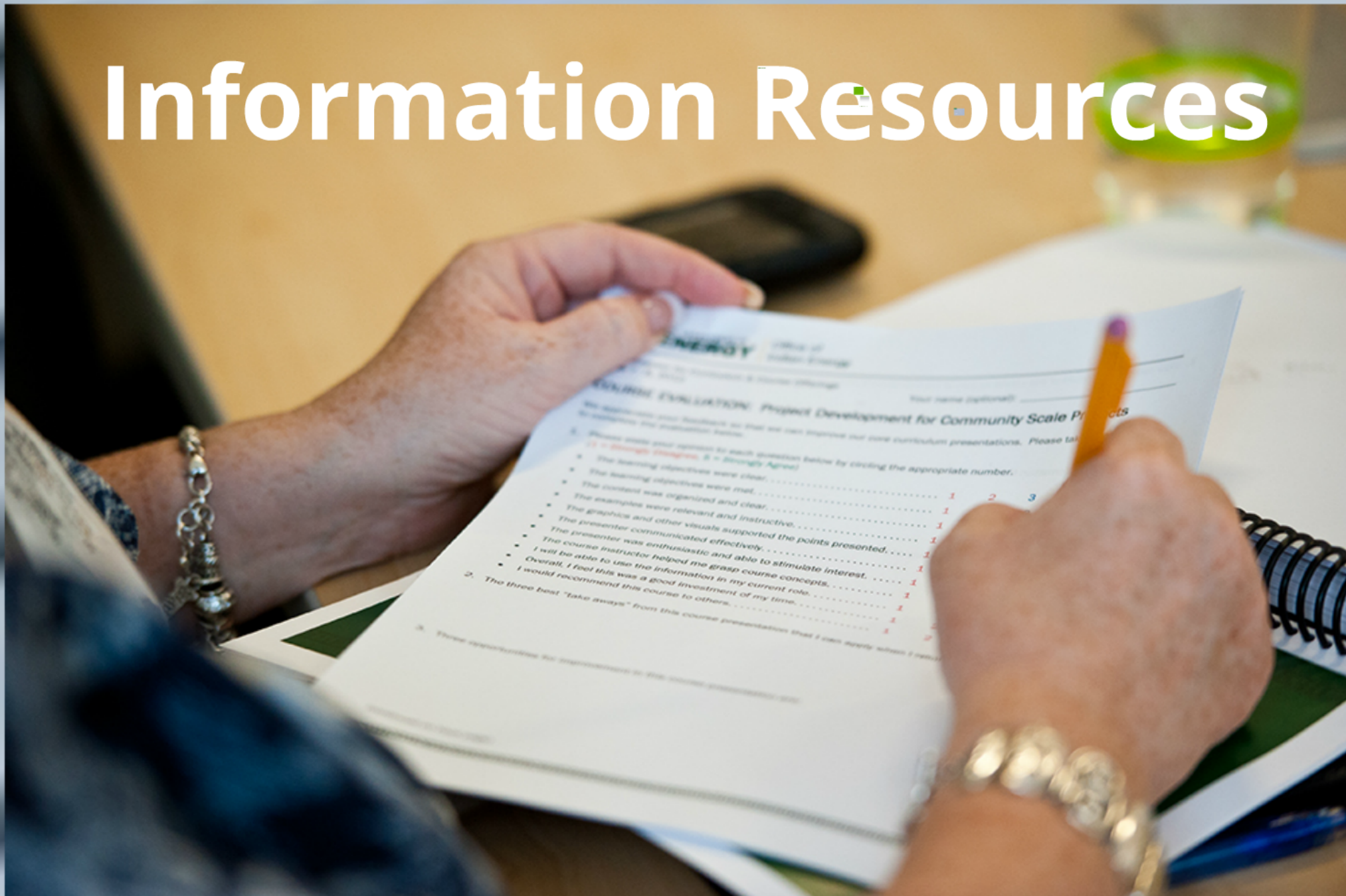
Annual Output

# Partners

Alaska Housing Finance Corporation  
American Council on Renewable Energy  
Cohn  
Reznick  
National Association of Regulatory Utility Commissioners  
Cold Climate Housing Research Center  
Office of Electricity Delivery and Energy Reliability  
Denali Commission  
Rural Alaska Community Action Program  
U.S. Department of Interior  
University of Alaska Anchorage  
Renewable Energy Alaska Project  
Alaska Center for Energy and Power  
U.S. Forest Service  
National Renewable Energy Laboratory  
U.S. Department of Agriculture  
Red Mountain Energy Partners  
Dearhouse Consulting Group  
Power Marketing Authorities  
Kabotie Consulting  
Sandia National Laboratories  
Alaska Energy Authority  
University of Alaska Fairbanks  
Interstate Renewable Energy Council  
U.S. Coast Guard



# Information Resources



# Publications

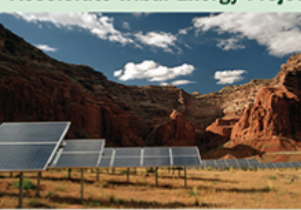


## INDIAN ENERGY BEAT

News on Actions to Accelerate Energy Development in Indian Country

SPRING 2013

### Federal Technical Assistance Aims to Accelerate Tribal Energy Project Deployment



Tribes can apply to receive technical assistance from DOE on renewable energy and energy efficiency project planning, development, and financing. Photo by Robert Davis, NREL, 07/09

#### HOW TO GET TECHNICAL ASSISTANCE

Apply for the START Program online at: [www.energy.gov/indianenergy/resources/start-program](http://www.energy.gov/indianenergy/resources/start-program).

The deadline is March 15, 2013.

Apply anytime online to receive up to 40 hours of free renewable energy and energy efficiency technical assistance from the DOE Office of Indian Energy and Tribal Energy Program at [www.energy.gov/indianenergy](http://www.energy.gov/indianenergy).

“Historic opportunities, Alaska Native tribal governments have also begun to play a key role in that they’re investing energy in energy efficiency projects.”

**START Renewable Energy Project Development Assistance**  
Selected Tribes in the 48 contiguous states, as well as Alaska Native Regional Corporations, will receive customized technical support to help move community and commercial-scale energy projects closer to implementation.

“Building on our all-of-these strategy to deploy every available domestic energy resource, these new technical assistance opportunities will strengthen our partnerships with tribal communities, create good jobs, and protect our planet,” said DOE Office of Indian Energy Director Tracy Laffoon.

#### START-UP

The Office of Indian Energy also plans to launch a new Tribal START-UP Program called a START-UP, which will help Tribes develop their utility services and increase ownership of local energy assets. See page 2 for more on START-UP.

#### Renewable Energy and Energy Efficiency Project Technical Assistance

In addition to START, Tribes can apply to receive up to 40 hours of clean energy project technical assistance focused on the following priority areas: strategic energy planning, grantee support, transmission/interconnection, project development, finance, and lease agreements.



### Planning Brings Vision Into Focus

DOE Office of Indian Energy On-the-Ground Technical Assistance Helps Tribes Chart a Path Toward Clean Energy Success

Many Tribes have established visions related to community energy. In order to move energy projects and initiatives forward, Tribes need a long-term strategy and a clear path to reach their goals.

The U.S. Department of Energy (DOE) Office of Indian Energy Policy and Programs (OIEEP) provides Tribes and Alaska Native entities with technical and financial assistance to encourage, facilitate, and assist in energy and energy infrastructure development on tribal lands.

“Ideas and data are nothing but pictures and words on a page without the action needed to bring them to life,” said DOE Office of Indian Energy Director Tracy Laffoon. “It’s about the process, the vision, the tools, and the expertise needed to break down the job forward.”

OIEEP established the Strategic Technical Assistance Response to empower tribal leaders to advance clean energy projects in their communities with tribal leaders to implement a strategic energy plan a step-by-step road map to success.

Guided by the process, Tribes bring their desired energy future forward a game plan for short- and long-term achievements a guidance for addressing energy challenges in times when the made and the follow from tightening budgets, natural gas price volatility.

OIEEP creates an opportunity for Tribes to engage their communities in a process to define energy development as a catalyst for a vision and ultimately strategies the community can pursue.” (ART team member and project leader at the National Renewable Energy Laboratory, NREL).

#### Benefits of Strategic Energy Planning

- Cost savings for community members
- Potential revenue from renewable energy generation
- A stronger economy
- Greater energy independence and security
- Local influence over energy facility siting
- More efficient communities
- Healthier communities
- A cleaner environment
- Regional tribal coordination and collaboration
- A chance to demonstrate leadership.



DOE staff and tribal leaders discuss energy projects during a meeting. Photo by Robert Davis, NREL, 07/09



### Advancing Energy Development in Indian Country

#### What is START?

The Strategic Technical Assistance Response Team (START) Program is a U.S. Department of Energy Office of Indian Energy Policy and Programs (OIEEP) initiative to provide technical expertise to support the development of next-generation energy projects in Indian Country.

The START Program seeks to speed clean energy project development by providing Tribes with tools and resources needed to foster energy self-sufficiency, sustainability, and economic competitiveness. With the support of technical experts from the National Renewable Energy Laboratory (NREL), START assists tribal leadership with project development and financing and helps tribal communities strategically plan their energy future.

#### What Does START Do?

Emphasizing long-term and meaningful impact in Indian Country, START addresses a variety of renewable energy technologies, as well as the diverse spectrum of tribal communities across the United States. START support ranges from technical resource analysis, development process assistance, and infrastructure evaluation to community-wide energy planning, workforce training, and project financial support.

“START will help Native American and Alaska Native communities increase local generation capacity, enhance energy efficiency and conservation measures, and create job opportunities in the new clean energy economy.”

—Director Tracy A. Laffoon  
DOE Office of Indian Energy



START team members Bob Springer (far left) and Bob Rasmussen (far right) with Laura Quish of the Campo Band of Kumeyaay Indians (far left) and the Campo Band of Kumeyaay Indians (far right) at the Campo Band of Kumeyaay Indians in San Diego County, California. Photo by Bob Davis, NREL, 07/09

**START Program Alaska Native Community Energy Planning and Projects**  
Lead by DOE in partnership with the Denali Commission, an independent federal agency, and NREL, START provides technical assistance to select Alaska Native entities that are focused on community-based energy planning, energy awareness and training programs, and identification and implementation of renewable energy and energy efficiency opportunities.

**START Program: Renewable Energy Project Development Assistance**  
START teams comprised of DOE and national laboratory experts provide customized technical support to help selected Tribes in the 48 contiguous states, as well as Alaska Native Regional Corporations, move community- and commercial-scale energy projects closer to implementation. This includes working directly with the tribal project team and tribal legal finance specialists who currently are or will be in the near future addressing two-stage project development decisions, negotiations, and agreements.

#### START-UP

Through the Tribal START Utility Program (START-UP), the DOE Office of Indian Energy enhances the START Program by helping Tribes develop their own utility services and increase ownership of local energy assets.

#### More Information

Learn more about START, including previous projects, at [www.energy.gov/indianenergy/resources/start-program](http://www.energy.gov/indianenergy/resources/start-program).



[www.energy.gov/indianenergy](http://www.energy.gov/indianenergy)  
[indianenergy@hq.doe.gov](mailto:indianenergy@hq.doe.gov)

March 2013 • DOE/IE-0116

Revised and updated energy efficiency and conservation at a total 10% reduction, including 10% and 10% reduction.



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Office of Indian Energy Policy and Programs

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## DOE Issues Funding Announcements for Tribal Clean Energy Projects

Up to \$7 million is available to deploy clean energy projects in tribal communities, reducing reliance on fossil fuel and promoting economic development on tribal lands.

READ MORE

### NEWS

MAY 20, 2013

#### Energy Department Announces New Technical Assistance for Tribal Clean Energy Projects

The Energy Department announced that five Tribes will receive technical assistance through the Strategic Technical Assistance Response Team (START) Program for renewable energy project development and installation.

More News

### BLOG

MAY 3, 2013

#### Helping Alaska Native Communities Reduce Their Energy Costs

Learn how the Energy Department is helping Alaska Native communities

### POPULAR TOPICS

Education and Training

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Tribal Leader Energy Forums

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### FEATURED LINKS

Apply Now for Tribal Clean Energy Funding Opportunities

USDA 2013 Rural Business Opportunity Grant Program

Green Power Network

Energy Department Policy on Acquiring Tribal Renewable Energy Products

New Tribal Economic Development Bonds Guidance

### UPCOMING EVENTS

Introduction to NABI and Asset Building in Native Communities Webinar

May 23, 2013

Regional Transmission Planning Webinar

May 29, 2013

Developing a Strong NABI Application Webinar

May 30, 2013

More Events

### NEW RESOURCES

Advancing Efforts to Energize Native Alaska

Department of Defense Contracting Requirements for Energy Procurement Webinar

Developing Tribal Energy Projects: Community Energy Planning

Financing Opportunities for Renewable Energy Development in Alaska

Military Base Off-Taker Opportunities for Tribal Renewable Energy Projects

Office of Indian Energy Newsletter: Spring 2013

### DEVELOPING CLEAN ENERGY PROJECTS ON TRIBAL LANDS



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## ENERGY RESOURCE LIBRARY

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### FEATURED PUBLICATIONS

#### A Guide to Community Solar: Utility, Private, and Non-Profit Project Development

A resource for community solar project development aimed at community organizers, solar advocates, government officials, and utility managers. Provides information on various community solar project models, state policies that support community solar projects, and tax policies and incentives.

[READ MORE](#) 

The Office of Indian Energy resource library provides links to helpful resources for Tribes on energy project development and financing in Indian Country. The library includes links to more than 85 topically relevant publications, websites, videos, and more produced by the Office of Indian Energy and external organizations. The resources are specifically focused on energy topics that help promote Indian tribal energy development, efficiency, and use.

Find resources for Tribes on the following topics:

- [Community Scale Development](#)
- [Fossil Energy](#)
- [Legal and Regulatory](#)
- [Project Checklists](#)
- [Project Development and Finance](#)
- [Strategic Energy Planning](#)
- [Technology](#)
- [Transmission](#)
- [Tribal Case Studies](#)
- [Utilities](#)





## PROJECT DEVELOPMENT AND FINANCE

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Below are resources for Tribes on energy project development and finance.

### [Project Development and Finance Course Curriculum Terminology Guide](#)

This document provides definitions for terminology and acronyms used in the professional course training curriculum developed for Tribes by the DOE Office of Indian Energy, available on the [National Training & Education Resource \(NTER\)](#) website.

## PROJECT DEVELOPMENT

### [A Guide to Community Solar: Utility, Private, and Non-Profit Project Development](#)

A resource for community solar project development aimed at community organizers, solar advocates, government officials, and utility managers. Provides information on various community solar project models (utility-sponsored, special purpose entities, non-profits), state policies that support community solar projects (group billing, virtual net metering, joint ownership), and tax policies and incentives. Source: U.S. Department of Energy.

### [An Introduction to Geothermal Permitting](#)

This guide tracks the geothermal permitting process through multiple levels, addressing such issues as the importance of where the geothermal resource is located, how the federal government defines geothermal, the kinds of permits needed, how states define geothermal, and which state agencies issue geothermal permits in each state. Source: Liz Battocletti, Bob Lawrence and Associates, Inc.

### [Federal Loan Programs for Economic and Community Development throughout Indian Country and Alaska](#)

This document provides a list of federal loan programs available to Tribes and includes the agency name, program name, eligibility, maximum loan amount, fees, contact information, and more. Source: U.S. Department of Agriculture.

### [Guide on How to Develop a Small Hydropower Plant](#)

This guide aims to give potential developers of small hydropower plants comprehensive information and advice on all necessary procedures for developing a site and includes the key steps to be followed to run a plant. Source: The European Small Hydropower Association.

### [Key Aspects in Developing a Wind Power Project](#)

Provides a brief overview of the different steps involved with developing a wind power project, including site analysis, permitting, electricity, technologies, financial aspects, and installation. Source: Vestas.

# Additional DOE Resources

DOE Office of Indian Energy Technical Assistance  
[www.energy.gov/indianenergy/technical-assistance](http://www.energy.gov/indianenergy/technical-assistance)

EERE Tribal Energy Program Email Updates  
[http://apps1.eere.energy.gov/tribalenergy/email\\_signup.cfm](http://apps1.eere.energy.gov/tribalenergy/email_signup.cfm)

EERE News Updates and Webinars  
<http://apps1.eere.energy.gov/news/subscribe.cfm>

National Training and Education Resource (NTER)  
[www.nterlearning.org](http://www.nterlearning.org)

State & Local Energy Efficiency Action Network (SEE Action)  
[www.eere.energy.gov/seeaction](http://www.eere.energy.gov/seeaction)

Weatherization and Intergovernmental Program  
[www.eere.energy.gov/wip/](http://www.eere.energy.gov/wip/)

# More Helpful Resources

**American Council on Renewable Energy (ACORE)**

**[acore.org](http://acore.org)**

**Interstate Renewable Energy Council (IREC)**

**[irecusa.org](http://irecusa.org)**

**National Association of Regulatory Utility Commissioners (NARUC)**

**[naruc.org](http://naruc.org)**





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